

**ABSTRACT OF THE DISCLOSURE**

According to one embodiment, a shallow trench isolation (STI) method (500) may include forming an etch mask layer over both a first and second substrate side (504). An etch mask layer over a first substrate side (506) may be patterned to form a STI etch mask, and trenches may be etched into a substrate (508). A trench dielectric layer can be formed over a first substrate side (510). An etch mask layer formed over a second substrate side can be etched (512), reducing and/or eliminating stress that may deform a substrate or otherwise adversely affect STI features. A trench dielectric may then be chemically-mechanically polished (step 514).